UNIVERSITI TEKNOLOGI MARA

FBM Insights

FACULTY OF BUSINESS AND MANAGEMENT
UNIVERSITI TEKNOLOGI MARA, CAWANGAN KEDAH

2025
VOLUME 12

UiTM di hatiku

eISSN 2716-599X
772716 599000
e-ISSN 2716-599X

FBM INSIGHTS

Faculty of Business and Management

Universiti Teknologi MARA Cawangan Kedah

e-ISSN 2716-599X

The editorial board would like to express their heartfelt appreciation for the contributions made by the authors, co-authors and all who were involved in the publication of this bulletin.

Published by : Faculty of Business and Management,
Universiti Teknologi MARA Cawangan Kedah

Published date : 9 October 2025

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BLOCKCHAIN USAGE IN MANAGEMENT: MALAYSIAN PERSPECTIVES AND APPLICATIONS

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ABSTRACT

Blockchain technology is widely acknowledged as a factor in transforming management systems by providing transparent record-keeping that is resistant to tampering efforts. In the Malaysian context, there is support at the level for embracing blockchain solutions. This support extends from the prime minister's emphasis on nurturing local talent to the implementation of halal certification records. Thus, this paper explains how blockchain can be applied in a management context. It also gives global examples to evaluate how blockchain can enhance efficiency in various sectors, such as supply chain management, finance, human resources, healthcare, energy and logistics by streamlining processes involving multiple stakeholders.

Keywords: blockchain, usage, application, management, Malaysia

INTRODUCTION

Blockchain technology has become a tool for revolutionising management systems across industries by providing unparalleled transparency and security while enhancing efficiency levels significantly (Yasmin Ahmad Zukiman, 2024). In the Malaysian perspective, the government acknowledges blockchain as an asset with diverse applications extending beyond its initial use in digital currency realms. Malaysia is currently, and actively, looking into incorporating blockchain technology in various industries. Prime Minister Datuk Seri Anwar Ibrahim has highlighted the importance of nurturing blockchain expertise to ensure that technological investments benefit Malaysians (Rosmalis Anuar, 2025). Previously, Deputy Prime Minister Datuk Seri Dr Ahmad Zahid Hamidi supported using blockchain in Malaysia's halal certification process to improve transparency and fight against fraud (Yasmin Ahmad Zukiman, 2024).

This paper investigates the current state and future potential of blockchain technology in management systems by analysing real-world examples and theoretical applications to demonstrate its capacity to transform management practices and their implementation in the field of management.

BLOCKCHAIN USAGE

In the world of blockchain technology management, it involves making decisions and optimising operations. For example, blockchain technology has improved traceability and security measures that comply with changing business needs. Additionally, the integration of blockchain with cutting-edge technologies, like artificial intelligence (AI) and the Internet of Things (IoT), is helping businesses boost their productivity to new heights.

Table 1 provides overview of the ways management practices leverage blockchain technology with explanations of processes and real-world applications, along with examples included in it. The researchers referred to Digital Business Strategies in Blockchain Ecosystems by Akyuz and Gursoy (2020) as a source to elaborate on how blockchain's used in management practices.

Table 1
Use of Blockchain in Management

Usage of Blockchain	Description and Example
Supply Chain Management (SCM) (Akyuz & Gursoy, 2020)	Blockchain promotes transparency, visibility, and trust in a multi-partner supply chain network. It ensures the immutability of data and provides a single source of truth. It eliminates inefficiencies such as fraud and lack of traceability by enabling end-to-end tracking and verifying provenance throughout supply chain operations. Example 1: Walmart uses blockchain to trace food products from farm to supermarket shelves. Contaminated food can now be tracked back to its source within 2.2 seconds using blockchain, compared to 7 days in the past. Example 2: Maersk and IBM have collaborated to digitise and track shipping containers globally by eliminating paperwork using blockchain.
Human Resource Management (HRM) (Zehir & Zehir, 2020)	Blockchain supports HRM by ensuring transparency in hiring, enabling secure storage of employee information, and enhancing the verification of credentials. AI integration aids in combining transparency with efficiency in processes like recruitment, payroll management, and others. Example 1: Blockchain-powered recruitment tools automate verification of candidate certifications, reducing falsified resumes. Example 2: Transparent payroll systems ensure immediate deposits directly to employees, tracked via blockchain.
Accounting and Auditing (Gökten & Özdoğan, 2020)	Blockchain provides secure, immutable accounting records and facilitates real-time auditability. The distributed ledger enables transparent and traceable records that are tamper-proof.

	Example 1: A group of collaborating companies uses blockchain to maintain shared ledgers of their transactions, eliminating reconciliation errors. Example 2: Auditors validate company data in real-time using blockchain's tamper-proof records.
Decision-Making in Strategic Management (Akyuz & Gursoy, 2020)	Blockchain enhances decision-making by securely integrating verified data for analysis. The immutability of data facilitates evidence-based strategic decisions through collaborative processes. Example: Supply chain partners use blockchain to share accurate, real-time data on inventory levels and production schedules, enabling better forecasting and optimisation.
Healthcare Management (Ku, 2020)	Blockchain provides a secure framework to store and share sensitive medical data. Distributed ledger technology enables patient records to be accessed transparently, securely, and with their consent. Example: Blockchain-based medical information systems ensure patient data accuracy and security. Hospitals can track patient records along with treatment history transparently, shared across involved parties securely.
Energy Management (Ku, 2020)	Blockchain introduces peer-to-peer energy trading systems and automatic execution of energy contracts through smart contracts. It ensures transparency in energy transactions for both individuals and organizations. Example: In the Brooklyn Microgrid Project, residents use blockchain-enabled smart meters to trade solar energy with neighbours in real-time, tracking their usage and payments automatically and transparently.
Logistics Operations (Cagle et. al, 2020)	Blockchain digitises logistical processes by replacing manual records and paperwork with verifiable, immutable smart contracts. This ensures both transparency and efficiency in operations like freight, customs, and inventory management. Example: IBM and Maersk's ocean freight blockchain solution reduces delays by digitising shipping documents and enabling live container status tracking, resulting in overall operational efficiency.
Transparency and Fraud Prevention in Finance (Gökten & Özdoğan, 2020).	Blockchain ensures tamper-proof financial transactions, enhancing transparency. It also reduces fraud risk by creating an immutable audit trail accessible to all authorised parties. Example: Interbank transactions use blockchain to ensure transparency and security in payments while eliminating scope for corruption or

	tampering with financial records.
Collaborative Ecosystem Management (Akyuz & Gursoy, 2020)	Blockchain facilitates a trusted ecosystem where partners share real-time information securely. Collaboration is improved by enabling visibility and automation of multi-stakeholder processes. Example: Blockchain-based integrated systems permit companies across a supply chain to plan production, replenish stocks, and execute payments promptly as all partners see identical, real-time transaction data.

CONCLUSION

Blockchain is changing the way management operates by tackling issues like fraud and inefficiency while promoting transparency and trust within organisations. As blockchain continues to evolve and merge with technologies like AI and IoT, it will play a bigger role in revolutionising management practices, making it a vital part of digital strategies in today's business world. Simultaneously, blockchain technology presents Malaysia with chances to transform management procedures in industries.

In summary, blockchain technology presents Malaysia with opportunities to enhance management systems, verification, transparency, and trust. The Malaysian government recognises this potential and is implementing measures to cultivate local talent and provide appropriate frameworks, positioning Malaysia to leverage blockchain for a competitive advantage in the global market.

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